

STEEL GRADE

Last revised: Fri, 17 Jan 2025 10:40:35 GMT

23MnCrMo5

All

General Information

23 MCD 5,

Chemical composition

Variant	Cast	Di		C %	Si %	Mn %	P %	S %	Cr %	Mo %
5503	CC	3.7	Min	0.20	0.10	1.10	0.000	0.025	1.00	0.05
			Max	0.26	0.50	1.30	0.025	0.040	1.35	0.15

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Hardness
5503	+AR	Round bar	25 < 160	< 300 HB

$R_{p0.2}$ * R_{eh} ** R_{el}

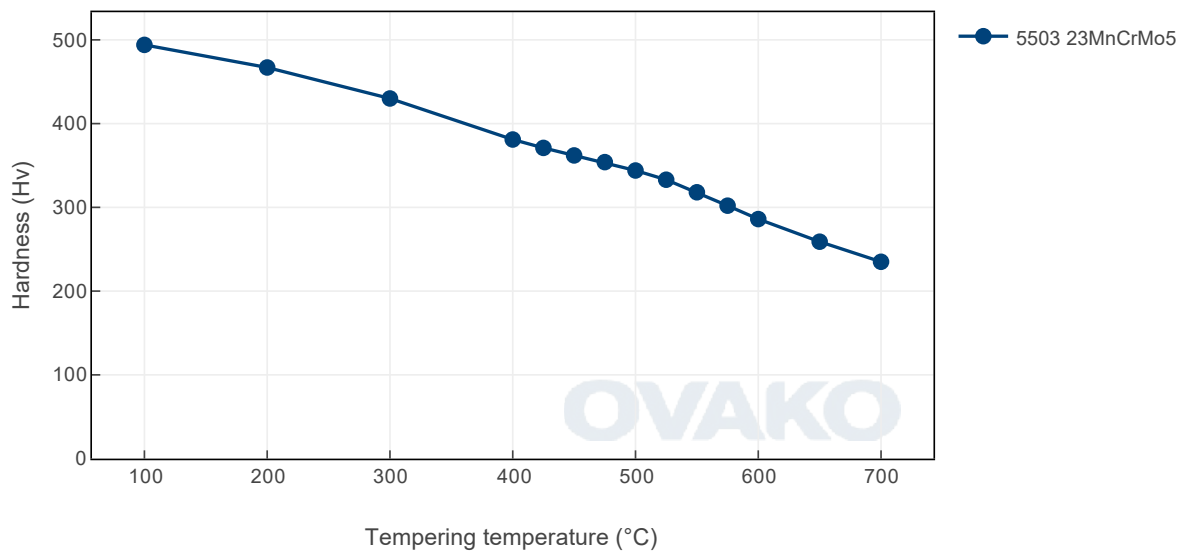
Transformation temperatures

	Temperature °C
MS	370
AC1	731
AC3	822

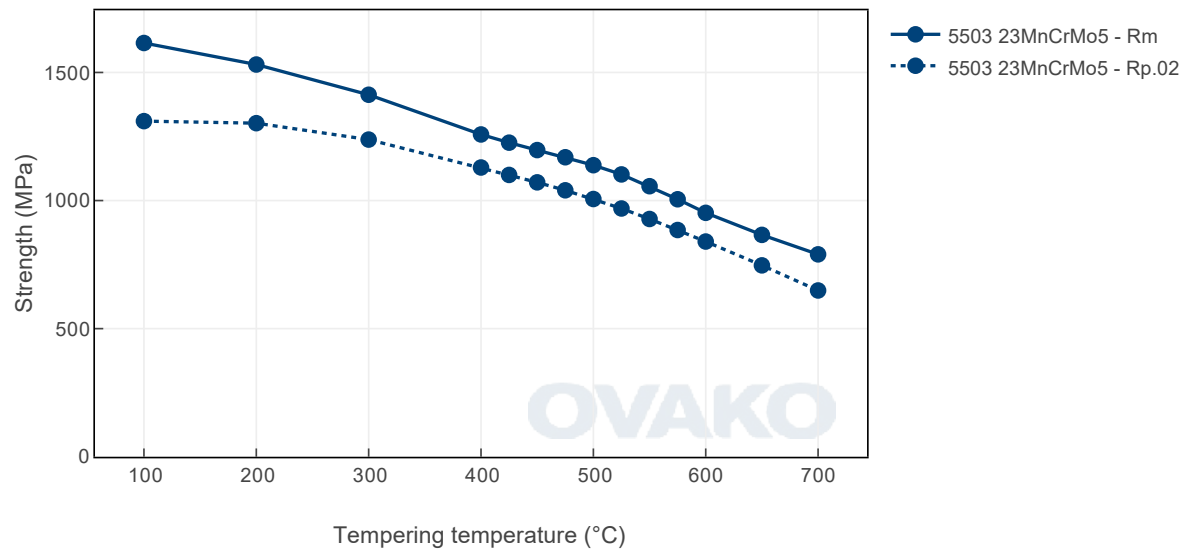
Heat Treatment Guide generated Graphs

The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.

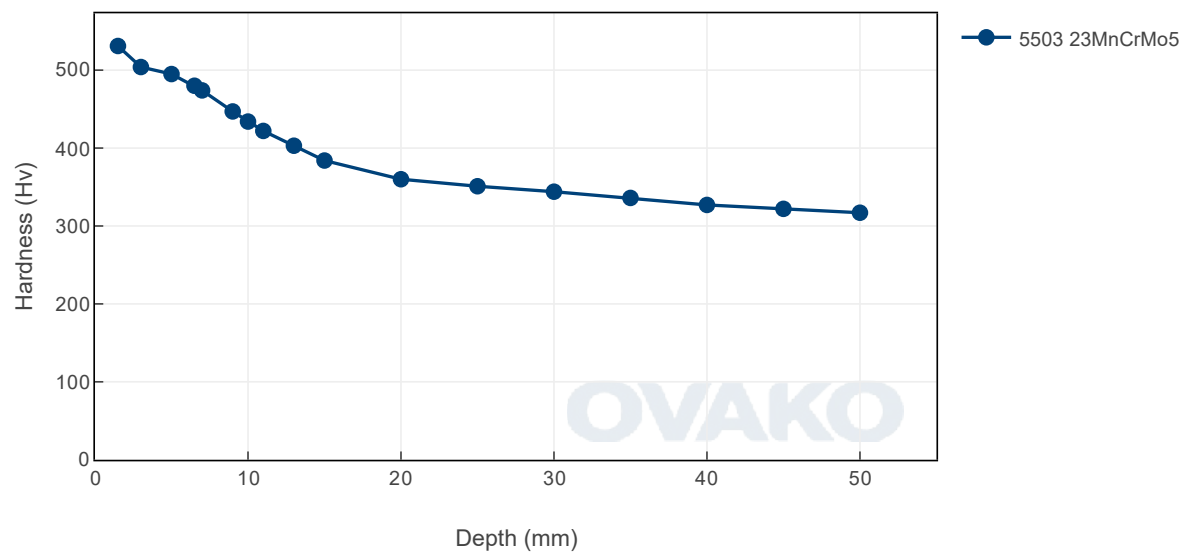
Tempering Diagram (hardness)



Tempering Diagram (strength)



Jominy



SUSTAINABILITY-ENVIRONMENTAL IMPACT DATA

At Ovako sustainability and reduction of our environmental impact is a major focus in everything we do.

Further information is found [here](#).

Steel works	Hofors	Smedjebacken	Imatra
CO2e/kg	120	62	76

To get the full picture of our products environmental impact we have to look at all of our CO₂ emission sources.

Not only the steel work Scope 1-2 itself, but all operations downstream in our production, heating and heat treatment furnaces etc (full scope 1-2) as well as all the emission from input material, eg. alloys, scope 3.

Steel Grade	Format	Condition	Scope 1-3 (CO2e kg /1000 kg steel)	Climate compensated Net emission = Scope 3 (CO2e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
5503	Round bar	+AR	524	242
5503	Round bar	+QT	777	290

All above data are to be seen as typical values for the specified format and condition. Detailed information about your specific product please contact your sales contact.

Other properties (typical values)

Youngs module (GPa)	Poisson´s ratio (-)	Shear module (GPa)	Density (kg/m3)
210	0.3	80	7800
Average CTE 20-300°C (µm/m°K)	Specific heat capacity 50/100°C (J/kg °K)	Thermal conductivity Ambient temperature (W/m°K)	Electrical resistivity Ambient temperature (µΩm)
12	460 - 480	40 - 45	0.20 - 0.25

Contact us

Would you like to know more about our offers? Don´t hesitate to contact us:

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Via telephone: +46 8 622 1300

For more detailed information please visit <http://www.ovako.com/en/Contact-Ovako/>

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